THE DISCRIMINATE ABILITY OF THE PEDIATRIC ADOLESCENT SHOULDER SURVEY (PASS)

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INTRODUCTION:

Pediatric Adolescent Shoulder Survey (PASS)

- 13 item adolescent/child friendly survey
- Previous work established reliability and ability to discriminate between patients with acute/chronic injury and those with decreased motion prior to treatment

PURPOSE:

- Evaluate the following psychometric properties of the PASS in operatively treated shoulder instability
  - Responsiveness to change 3 months post-operative
  - Floor & Ceiling Effects after surgery
  - Ability to discriminate between differing operative outcomes

METHODS:

- Review of patients that underwent surgical treatment for shoulder instability at a single institution
  - Data collected from pre-operative and 3 months post-operative (range 2.5-4.5mos)

Instruments:

- PASS - 13 item pediatric friendly
  - Score 0 to 100%, *high score = no/min disability*
- QuickDASH - 11 items, validated in adults
  - Score 0 to 100, *high score = max disability*
- SANE - Single item
  - 0 – 100, *high score = normal shoulder*

Responsiveness to Change:

- Repeated Measures ANOVA
- Effect size calculation

Floor & Ceiling Effect

- >15% of cohort with lowest (Floor) or highest (Ceiling) score possible

Discriminant Ability

- Differences in PASS & QuickDASH scores compared post-op based on outcomes:
  - Range of motion within 10 degrees to contralateral extremity or no discrepancy in strength score compared to >10 degree difference in motion or 1pt difference in strength score
  - SANE ≥80% compared to SANE <80%

RESULTS:

50 patients

- Avg. age 16 years (range 13.5-18 yrs)
- 64% Male
- Avg. follow-up 3.2 ± 0.5 months

Responsiveness to Change

Significant improvements post-operatively for both instruments (Table 1).

Table 1. Responsiveness to change

	PASS	QuickDASH
Pre-op	57±16%	27±17
3mo post-op	74±16%	18±16
p	<0.001	0.003
effect size f	0.84	0.48

Floor & Ceiling Effect

- No floor scores for either instrument
- Ceiling effect noted post-op for QuickDASH (16%) vs. PASS (4%), p=0.03 (Fig. 1)

Post-op Discriminant Ability

- Significant differences noted with large effect sizes for the PASS in both outcomes (Table 2).

CONCLUSION:

The PASS shows expected improvements in shoulder function following surgical intervention for instability, without ceiling effects.

The PASS discriminates between patients with differing post-operative outcomes at 3 months following surgery.

SIGNIFICANCE:

The PASS is an age appropriate tool for assessing changes in shoulder function following surgical intervention and demonstrates some psychometric superiority over the quickDASH in this adolescent population.

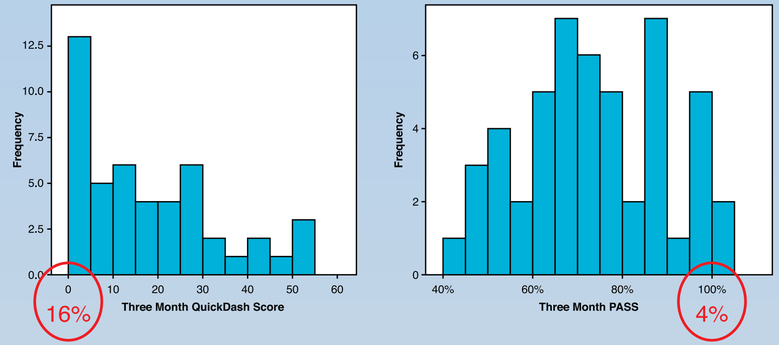

Fig. 1: Frequency distribution of QuickDASH and PASS instruments.

Table 2. Post-op discriminant ability

		PASS	QuickDASH
Diminished Motion/Strength	no	80±14%	14±15
	yes	68±15%	22±15
	p	**0.04**	0.07
	effect size f	0.44	0.28
SANE Score	≥80%	82±16%	12±17
	<80%	65±11%	25±14
	p	**0.001**	**0.026**
	effect size f	0.63	0.42

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